

REMARKS

The Office Action of August 8, 2007 has been carefully considered.

Claims 1-16 have been replaced by new claims 17-32 written in better form for US practice. Claim 17 is directed to an intervertebral prosthesis comprising an elastic body made of a material which is flexible in all directions, and means for securing the elastic body to adjacent vertebrae comprising means for engaging the vertebrae between laminar arches of adjacent vertebrae.

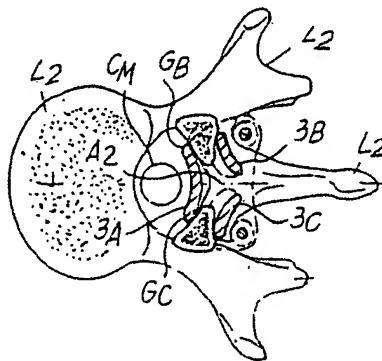
Claims 1-8 have been rejected under 35 USC 102(b) over Xavier et al, and claim 9 has been rejected under 35 USC 103(a) over Xavier et al.

The invention relates to an "interlaminar" prosthesis, i.e. a prosthesis that is inserted between two following laminae of two corresponding vertebrae. This solution allows a surgical operation from the back side, and for this reason may be minimally invasive. This can be very advantageous with respect to other surgical operations from the "abdomen side," which cannot be minimally invasive.

The prosthesis comprises an elastic body (1) made of a material which is flexible in all directions and is designed to be inserted between two facing laminar arches (A2, A3) of two adjacent vertebrae (L2, L3). The elastic body is inserted between the laminar arches in order to cause a distraction between them at the central region of the laminar arches. For this reason, it is described as an "interlaminar prosthesis."

The attachment is shown in Fig. 6 of the application, which is reproduced below:

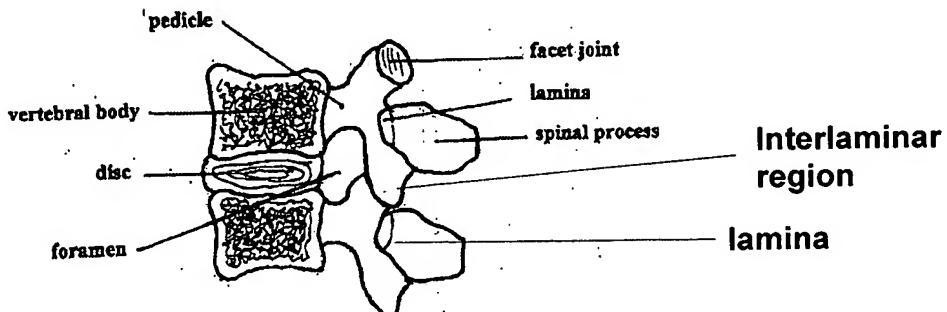
Fig. 6



Because the elastic body is secured to the adjacent vertebrae (L2, L3) between facing laminar arches, screws are not necessary to engage the vertebrae; the elastic body is inserted between two adjacent "spinose processes," and pushed up to engage the two facing laminar arches.

The advantages of this arrangement are minimal invasivity and a monolateral approach. In addition, the insertion of the elastic body preserves the integrity of the supra-spinous ligament, and the elastic body approaches the maximum possible the instantaneous rotation axis in the lumbar region of the spine. The above advantages result in a minimum time of stay in hospital for patients.

The following scheme shows the location of the inter-laminar region:



In addition, attached hereto are two sheets (labelled "exhibit") with four different views of two vertebrae of the lumbar spine.

The invention claimed thus relates to an elastic body arranged in the inter-laminar region between two lumbar vertebrae. None of the cited prior art discloses such a solution.

Xavier relates to a prosthesis for two vertebral bodies. It can be used in patients that have very serious illness of the spine, and have a need to replace the entire vertebrae. It is clearly not relevant to the claimed invention, as it is not constructed to be disposed between laminar arches of adjacent vertebrae, and as can be seen from Figure 1, is screwed into the spine from the front side.

Withdrawal of these rejections is requested.

Claims 10 and 11 have been rejected under 35 USC 103(a) over Xavier et al in view of Casutt.

Casutt discloses an artificial intervertebral disc, i.e. the biological cushioning element between two vertebral bodies. Casutt does not cure the defects of Xavier, as discussed above, and withdrawal of this rejection is requested.

Claims 12-16 have been rejected under 35 USC 103(a) over Voydeville in view of Xavier et al.

Voydeville provides a cushioning element to be placed between the spinal processes of two consecutive vertebrae. Voydeville attempts a similar solution to the invention, that is to dampen the load of the vertebral disc with a cushioning element. However, Voydeville places the cushioning element between two consecutive spinal processes, with the disadvantage that the cushioning element is free to shift away and elastic ligaments are necessary, with clearly visible problems.

Moreover, the solution proposed by Voydeville is sufficiently different from Xavier et al that it could not be combined with Xavier et al to arrive at the claimed invention.

Withdrawal of this rejection is requested.

In view of the foregoing amendments and remarks, Applicants submit that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

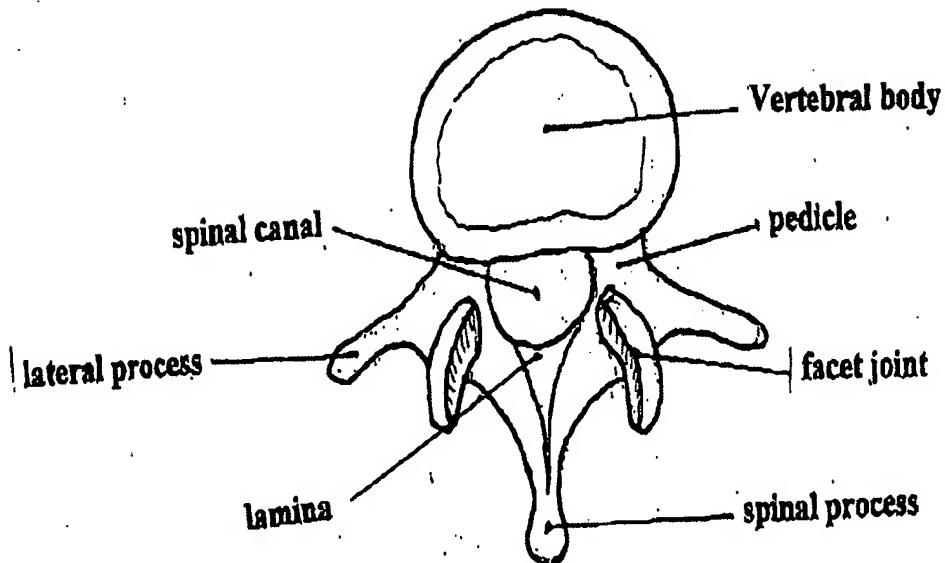
Respectfully submitted,



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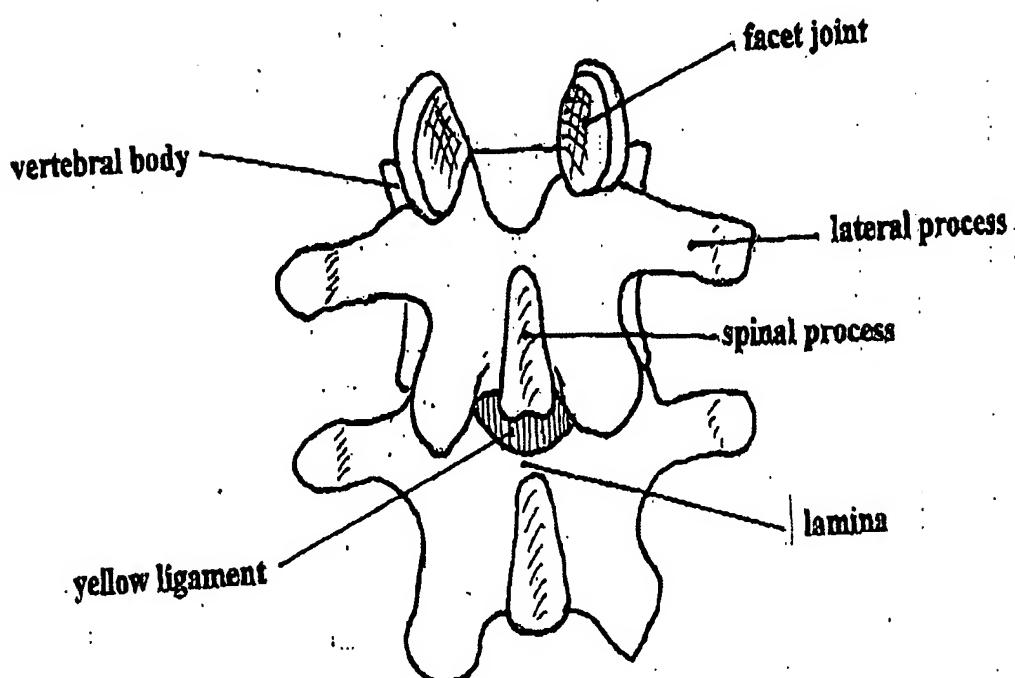
LAW OFFICES
DENNISON, SCHULTZ & MACDONALD
SUITE 105
1727 KING STREET
ALEXANDRIA, VIRGINIA 22314-2700
703 837-9600

Exhibit

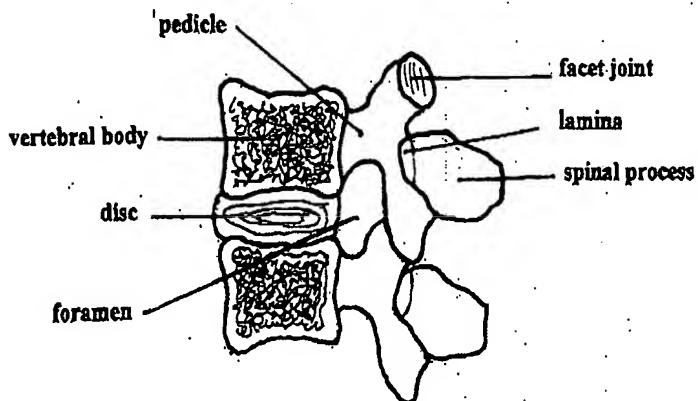


LUMBAR VERTEBRA

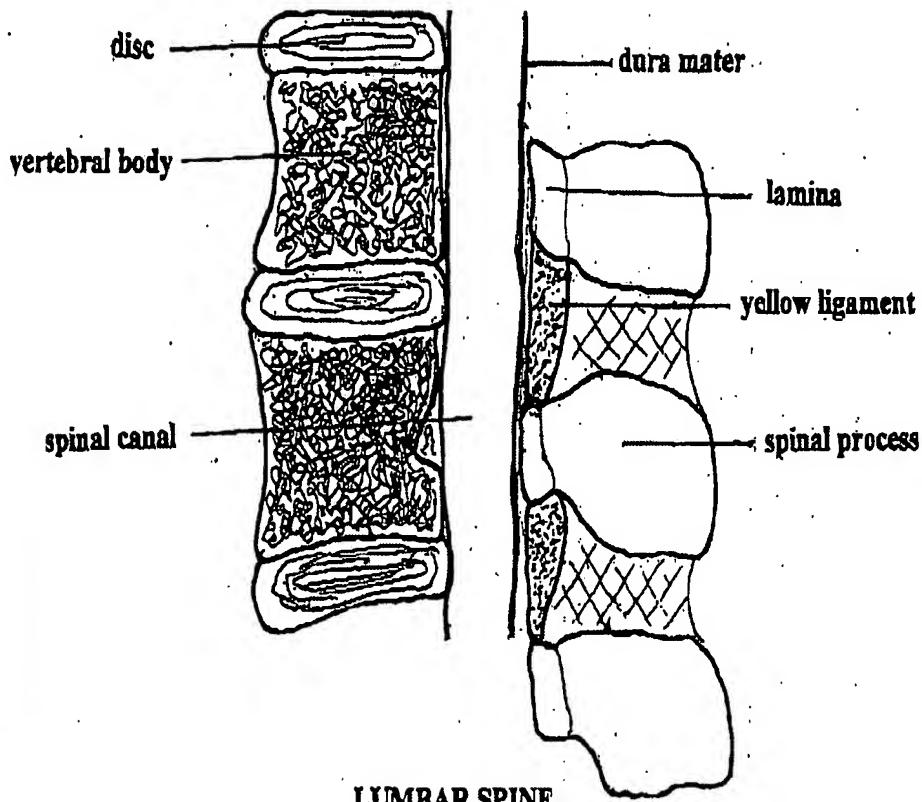
Superior view



Exhibit



LUMBAR SPINE
Sagittal section



LUMBAR SPINE
Sagittal section